

WHAT IS CLAIMED IS:

1. An ink composition comprising a liquid medium, a colorant and at least 0.1% by weight of the ink of an amphiphilic material having the formula

5 $R-O-Q_nA^-M^+$ where

R represents an alkyl, aryl, alkyl-aryl or alkenyl group;

Q represents a hydrophilic repeating unit of ethylene oxide or propylene oxide, wherein n>4;

A⁻ represents a sulfate, sulfonate or phosphate group;

10 M⁺ represents a cation such as potassium, sodium, lithium or ammonium;

and where if the colorant is a modified carbon black with organic groups covalently bonded thereto, the amphiphilic material has the same charge as the modified carbon black.

15 2. The ink composition of claim 1 where the amphiphilic material is one or more compositions selected from the group of (a) alkyl, aryl, alkyl-aryl or alkenyl ether phosphates and salts thereof, including sodium, potassium, ammonium and lithium salts; and (b) alkyl, aryl, alkyl-aryl or alkenyl ether sulfates and salts thereof, including sodium, potassium, ammonium and lithium salts.

20 3. The ink composition of Claim 2 wherein the ink comprises no more than 10% of the amphiphilic material on a weight basis.

25 4. The ink composition of Claim 1 further comprising at least 0.1% by weight of the ink of a second amphiphilic material, where the second amphiphilic material has the formula

$XQ_nR'-Y-R$ where

X represents hydroxyl or amino functionality;

30 Q represents a hydrophilic repeating unit of ethylene oxide or propylene oxide, wherein n>4;

R' represents C₁ to C₆ alkyl functionality;

Y represents oxygen, nitrogen or sulfur; and

R represents an alkyl, aryl, alkyl-aryl or alkenyl group.

5. The ink composition of Claim 4 where the second amphiphilic material is one or more compositions selected from the group of (a) alkyl, aryl, alkyl-aryl or alkenyl mercaptan ethoxylates and (b) alky phenol ethoxylates.

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6. The ink composition of Claim 4 wherein the ink comprises no more than 10% of the second amphiphilic material on a weight basis.

7. An ink composition comprising a liquid medium, a colorant and at least 0.1% by weight of the ink of an amphiphilic material having the formula

10 $XQ_nR'YR$ where
X represents hydroxyl or amino functionality;
Q represents a hydrophilic repeating unit of ethylene oxide or propylene oxide, wherein $n > 4$;
15 R' represents C_1 to C_6 alkyl functionality;
Y represents oxygen, nitrogen or sulfur; and
R represents an alkyl, aryl, alkyl-aryl or alkenyl group.

8. The ink composition of Claim 7 where the amphiphilic material is one or more compositions selected from the group of (a) alkyl, aryl, alkyl-aryl or alkenyl mercaptan ethoxylates and (b) alky phenol ethoxylates.

20 9. The ink composition of Claim 7 further comprising at least 0.1% by weight of the ink of a second amphiphilic material, where the second amphiphilic material has
25 the formula

28 $R-O-Q_nA^-M^+$ where
R represents an alkyl, aryl, alkyl-aryl or alkenyl group;
Q represents a hydrophilic repeating unit of ethylene oxide or propylene oxide, wherein $n > 4$;
30 A⁻ represents a sulfate, sulfonate or phosphate group; and
M⁺ represents a cation such as potassium, sodium, lithium or ammonium.

10. The ink composition of claim 9 where the second amphiphilic material is one or more compositions selected from the group of (a) alkyl, aryl, alkyl-aryl or alkenyl ether phosphates and salts thereof, including sodium, potassium, ammonium and lithium salts; and (b) alkyl, aryl, alkyl-aryl or alkenyl ether sulfates and salts thereof, including sodium, potassium, ammonium and lithium salts.

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